

Message

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Sent: 5/24/2013 7:18:14 PM
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Subject: Comment RE: High radium levels shut Bethpage Water District well by EMILY C. DOOLEY Newsday 5/24/13 & NEWS12

Emily & News12 Editors: How would Bethpage Water District officials even know ***“the amount of radium does not exceed federal or state drinking water standards”*** when they never test for gross gamma rays from over 165 radionuclides regulated by the Safe Drinking Water Act of 1976, or its Amendment; the Radionuclides Rule of 2000?

Obviously, they have no clue about the dangers of radium-226 and radium-228, which have half-lives greater than one year and are of concern for Department of Energy environmental management sites. Radium-226 is a radioactive decay product in the uranium-238 decay series and is the precursor of radon-222. Radium-228 is a radioactive decay product in the thorium-232 decay series. Both isotopes give rise to many additional short-lived radionuclides, resulting in a wide spectrum of alpha, beta and gamma radiation. Lead-210, which has a 22-year half-life, is included in the list of short-lived radionuclides associated with radium-226 for completeness, as this isotope and its short-lived decay products are typically present with radium-226. Radium-226 decays slowly (half-life of 1,600 years) by continually emitting alpha, beta & gamma radiation. Radium-228 has a much shorter half-life (5.8 years) and decays by emitting high energy beta particles. While radium-226 poses a hazard due to its long half-life, radium-228 poses a long term hazard if its parent (thorium-232) is present. [1]

Lead-210, the most toxic of all drinking water contaminants, is found in huge quantities in public wells south of Grumman's Calverton site --- over 3000x the maximum contaminant level of 4 mrem/yr for gross gamma + beta + x-ray activity. How much Lead-210 is in Bethpage's water supply remains a mystery. Additionally, radium-226 & radium-228 continually release two radioactive gases radon-222 & radon-220, which means Grumman's VOC's are radioactive, yet there are no tests, federal or state standards for radon – the second leading cause of lung cancer,

Why hasn't the EPA stepped in to protect the public???

Your truly,

Dr. Carmine F. Vasile

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[1] “Radiological and Chemical Fact Sheets to Support Health Risk Analyses for Contaminated Areas”, Argonne National Laboratory Environmental Science Division, John Peterson, et al.

<http://www.newsday.com/long-island/nassau/high-radium-levels-shut-bethpage-water-district-well-1.5328287?p=886531>